

WHAT IS CLAIMED IS:

1. A method for determining layout of  
print data printed by a printer onto a recording  
5 medium, in which the recording medium is processed  
by a target device different from the printer,  
comprising:

determining printing capabilities of the  
printer;

10 determining processing capabilities of the  
target device; and

determining layout of the print data based  
on compatible capabilities between the printing  
capabilities of the printer and the processing  
15 capabilities of the target device.

2. A method according to Claim 1, wherein  
the step of determining layout further comprises the  
step of communicating with the printer so as to  
20 negotiate the layout.

3. A method according to Claim 1, wherein  
the step of determining layout further comprises the  
step of communicating with the target device so as  
25 to negotiate the layout.

4. A method according to Claim 1, further  
comprising the steps of communicating the layout of  
the print data to the printer and configuring the  
30 printer in accordance with the communicated layout.

5. A method according to Claim 4, wherein  
the layout is communicated to the printer in a print  
job sent to the printer for printing the print data.  
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6. A method according to Claim 1, further comprising the steps of communicating the layout of the print data to the target device and configuring the target device in accordance with the communicated layout.

7. A method according to Claim 1, wherein the printing capabilities are determined through communication with the printer.

8. A method according to Claim 1, wherein the printing capabilities are determined through communication with a database that stores data of printing capabilities of the printer.

9. A method according to Claim 8, wherein the database further stores data of printing capabilities of plural different printers.

10. A method according to Claim 1, wherein the processing capabilities are determined through communication with the target device.

11. A method according to Claim 1, wherein the processing capabilities are determined through communication with a database that stores data of processing capabilities of the target device.

12. A method according to Claim 11, wherein the database further stores data of processing capabilities of plural different target devices.

13. A method according to Claim 1, wherein the printing capabilities include at least one valid size for the recording medium and at least one printable area on the recording medium.

14. A method according to Claim 1, wherein the processing capabilities include at least one valid size for the recording medium and at least one area on the recording medium that can be processed.

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15. A method according to Claim 14, wherein the processing capabilities further include at least one area on the recording medium that cannot be processed.

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16. A method according to Claim 14, wherein the processing capabilities further include a minimum distance of separation for images on the recording medium that can be processed.

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17. A method according to Claim 1, wherein the printer is a color printer, the print data includes color patches for performing color calibration of the color printer, the target device is a color measuring device, and the processing capabilities further include a minimum distance of separation between color patches and a minimum size for the color patches.

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18. A method according to Claim 1, wherein the target device is a device selected from the group consisting of a stamp reader, a bar code reader, an automatic scoring device, an automatic folding device, an automatic stitching device, an automatic binding device, an automatic stamping device, and an automatic cutting device.

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19. A method for determining layout of color patches printed by a color printer onto a recording medium, in which the recording medium is processed by a color measuring device so as to

perform color calibration of the color printer based on the color patches, comprising:

determining printing capabilities of the color printer, the printing capabilities including at least one valid size for the recording medium and at least one printable area on the recording medium;

determining processing capabilities of the color measuring device, the processing capabilities including at least one valid size for the recording medium, at least one area on the recording medium that can be processed by the color measuring device, and a minimum distance of separation between color patches;

determining compatible capabilities between the printing capabilities of the color printer and the processing capabilities of the color measuring device; and

determining layout of the color patches based on the compatible capabilities between the printing capabilities of the color printer and the processing capabilities of the color measuring device.

20. An apparatus for determining layout of print data printed by a printer onto a recording medium, in which the recording medium is processed by a target device different from the printer, comprising:

a first interface to a printer;  
a second interface to a target device;  
a memory including a region for storing computer-executable process steps; and  
a processor for executing the computer-executable process steps;

wherein the computer-executable process steps include steps of: (a) determining printing capabilities of the printer; (b) determining

processing capabilities of the target device; and  
(c) determining layout of the print data based on  
compatible capabilities between the printing  
capabilities of the printer and the processing  
5 capabilities of the target device.

21. An apparatus according to Claim 20,  
wherein the step of determining layout further  
comprises the step of communicating with the printer  
10 so as to negotiate the layout.

22. An apparatus according to Claim 20,  
wherein the step of determining layout further  
comprises the step of communicating with the target  
15 device so as to negotiate the layout.

23. An apparatus according to Claim 20,  
wherein the computer-executable process steps  
further comprise the steps of communicating the  
20 layout of the print data to the printer and  
configuring the printer in accordance with the  
communicated layout.

24. A method according to Claim 23,  
25 wherein the layout is communicated to the printer in  
a print job sent to the printer for printing the  
print data.

25. An apparatus according to Claim 20,  
30 wherein the computer-executable process steps  
further comprise the steps of communicating the  
layout of the print data to the target device and  
configuring the target device in accordance with the  
communicated layout.

26. An apparatus according to Claim 20, wherein the printing capabilities are determined through communication with the printer.

5           27. An apparatus according to Claim 20, wherein the printing capabilities are determined through communication with a database that stores data of printing capabilities of the printer.

10           28. An apparatus according to Claim 27, wherein the database further stores data of printing capabilities of plural different printers.

15           29. An apparatus according to Claim 20, wherein the processing capabilities are determined through communication with the target device.

20           30. An apparatus according to Claim 20, wherein the processing capabilities are determined through communication with a database that stores data of processing capabilities of the target device.

25           31. An apparatus according to Claim 30, wherein the database further stores data of processing capabilities of plural different target devices.

30           32. An apparatus according to Claim 20, wherein the printing capabilities include at least one valid size for the recording medium and at least one printable area on the recording medium.

35           33. An apparatus according to Claim 20, wherein the processing capabilities include at least one valid size for the recording medium and at least

one area on the recording medium that can be processed.

5           34. An apparatus according to Claim 33,  
wherein the processing capabilities further include  
at least one area on the recording medium that  
cannot be processed.

10           35. An apparatus according to Claim 33,  
wherein the processing capabilities further include  
a minimum distance of separation for images on the  
recording medium that can be processed.

15           36. An apparatus according to Claim 20,  
wherein the printer is a color printer, the print  
data includes color patches for performing color  
calibration of the color printer, the target device  
is a color measuring device, and the processing  
20           capabilities further include a minimum distance of  
separation between color patches and a minimum size  
for the color patches.

25           37. An apparatus according to Claim 20,  
wherein the target device is a device selected from  
the group consisting of a stamp reader, a bar code  
reader, an automatic scoring device, an automatic  
folding device, an automatic stitching device, an  
automatic binding device, an automatic stamping  
device, and an automatic cutting device.

30           38. An apparatus for determining layout of  
color patches printed by a color printer onto a  
recording medium, in which the recording medium is  
processed by a color measuring device so as to  
35           perform color calibration of the color printer based  
on the color patches, comprising:

a printer interface to the color printer;

a measuring device interface to the color measuring device;

a memory including a region for storing computer-executable process steps; and

5 a processor for executing the computer-executable process steps;

wherein the computer-executable process steps include steps of: (a) determining printing capabilities of the color printer, the printing capabilities including at least one valid size for the recording medium and at least one printable area on the recording medium; (b) determining processing capabilities of the color measuring device, the processing capabilities including at least one valid size for the recording medium, at least one area on the recording medium that can be processed by the color measuring device, and a minimum distance of separation between color patches; (c) determining compatible capabilities between the printing capabilities of the color printer and the processing capabilities of the color measuring device; and (d) determining layout of the color patches based on the compatible capabilities between the printing capabilities of the color printer and the processing capabilities of the color measuring device.

39. A negotiation controller, the negotiation controller comprising computer-executable process steps to determine layout of print data printed by a printer onto a recording medium, in which the recording medium is processed by a target device different from the printer, the computer-executable process steps comprising:

code to determine printing capabilities of the printer;

code to determine processing capabilities of the target device; and



code to determine layout of the print data based on compatible capabilities between the printing capabilities of the printer and the processing capabilities of the target device.

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40. A negotiation controller according to Claim 39, wherein the code to determine layout further comprises code to communicate with the printer so as to negotiate the layout.

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41. A negotiation controller according to Claim 39, wherein the code to determine layout further comprises code to communicate with the target device so as to negotiate the layout.

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42. A negotiation controller according to Claim 39, further comprising code to communicate the layout of the print data to the printer and code to configure the printer in accordance with the communicated layout.

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43. A method according to Claim 42, wherein the layout is communicated to the printer in a print job sent to the printer for printing the print data.

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44. A negotiation controller according to Claim 39, further comprising code to communicate the layout of the print data to the target device and code to configure the target device in accordance with the communicated layout.

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45. A negotiation controller according to Claim 39, wherein the printing capabilities are determined through communication with the printer.

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46. A negotiation controller according to Claim 39, wherein the printing capabilities are determined through communication with a database that stores data of printing capabilities of the printer.

47. A negotiation controller according to Claim 46, wherein the database further stores data of printing capabilities of plural different printers.

48. A negotiation controller according to Claim 39, wherein the processing capabilities are determined through communication with the target device.

49. A negotiation controller according to Claim 39, wherein the processing capabilities are determined through communication with a database that stores data of processing capabilities of the target device.

50. A negotiation controller according to Claim 49, wherein the database further stores data of processing capabilities of plural different target devices.

51. A negotiation controller according to Claim 39, wherein the printing capabilities include at least one valid size for the recording medium and at least one printable area on the recording medium.

52. A negotiation controller according to Claim 39, wherein the processing capabilities include at least one valid size for the recording medium and at least one area on the recording medium that can be processed.

53. A negotiation controller according to Claim 52, wherein the processing capabilities further include at least one area on the recording medium that cannot be processed.

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54. A negotiation controller according to Claim 52, wherein the processing capabilities further include a minimum distance of separation for images on the recording medium that can be  
10 processed.

55. A negotiation controller according to Claim 39, wherein the printer is a color printer, the print data includes color patches for performing  
15 color calibration of the color printer, the target device is a color measuring device, and the processing capabilities further include a minimum distance of separation between color patches and a minimum size for the color patches.

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56. A negotiation controller according to Claim 39, wherein the target device is a device selected from the group consisting of a stamp reader, a bar code reader, an automatic scoring  
25 device, an automatic folding device, an automatic stitching device, an automatic binding device, an automatic stamping device, and an automatic cutting device.

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57. A negotiation controller, the negotiation controller comprising computer-executable process steps to determine layout of color patches printed by a color printer onto a recording medium, in which the recording medium is  
35 processed by a color measuring device so as to perform color calibration of the color printer based

on the color patches, the computer-executable process steps comprising:

code to determine printing capabilities of the color printer, the printing capabilities including at least one valid size for the recording medium and at least one printable area on the recording medium;

code to determine processing capabilities of the color measuring device, the processing capabilities including at least one valid size for the recording medium, at least one area on the recording medium that can be processed by the color measuring device, and a minimum distance of separation between color patches;

code to determine compatible capabilities between the printing capabilities of the color printer and the processing capabilities of the color measuring device; and

code to determine layout of the color patches based on the compatible capabilities between the printing capabilities of the color printer and the processing capabilities of the color measuring device.

58. A computer-readable medium which stores a negotiation controller, the negotiation controller comprising computer-executable process steps to determine layout of print data printed by a printer onto a recording medium, in which the recording medium is processed by a target device different from the printer, the computer-executable process steps comprising:

a first determining step to determine printing capabilities of the printer;

a second determining step to determine processing capabilities of the target device; and

a third determining step to determine layout of the print data based on compatible capabilities between the printing capabilities of the printer and the processing capabilities of the target device.

59. A computer-readable medium according to Claim 58, wherein the third determining step to determine layout of the print data further comprises a communicating step to communicate with the printer so as to negotiate the layout.

60. A computer-readable medium according to Claim 58, wherein the third determining step to determine layout of the print data further comprises a communicating step to communicate with the target device so as to negotiate the layout.

61. A computer-readable medium according to Claim 58, wherein the computer-executable process steps further comprise a communicating step to communicate the layout of the print data to the printer and a configuring step to configure the printer in accordance with the communicated layout.

62. A computer-readable medium according to Claim 58, wherein the layout is communicated to the printer in a print job sent to the printer for printing the print data.

63. A computer-readable medium according to Claim 58, wherein the executable process steps further comprise a communicating step to communicate the layout of the print data to the target device and a configuring step to configure the target device in accordance with the communicated layout.

64. A computer-readable medium according to Claim 58, wherein the printing capabilities are determined through communication with the printer.

5           65. A computer-readable medium according to Claim 58, wherein the printing capabilities are determined through communication with a database that stores data of printing capabilities of the printer.

10           66. A computer-readable medium according to Claim 65, wherein the database further stores data of printing capabilities of plural different printers.

15           67. A computer-readable medium according to Claim 58, wherein the processing capabilities are determined through communication with the target device.

20           68. A computer-readable medium according to Claim 58, wherein the processing capabilities are determined through communication with a database that stores data of processing capabilities of the  
25           target device.

            69. A computer-readable medium according to Claim 68, wherein the database further stores data of processing capabilities of plural different  
30           target devices.

            70. A computer-readable medium according to Claim 58, wherein the printing capabilities include at least one valid size for the recording  
35           medium and at least one printable area on the recording medium.

71. A computer-readable medium according to Claim 58, wherein the processing capabilities include at least one valid size for the recording medium and at least one area on the recording medium that can be processed.

72. A computer-readable medium according to Claim 71, wherein the processing capabilities further include at least one area on the recording medium that cannot be processed.

73. A computer-readable medium according to Claim 71, wherein the processing capabilities further include a minimum distance of separation for images on the recording medium that can be processed.

74. A computer-readable medium according to Claim 58, wherein the printer is a color printer, the print data includes color patches for performing color calibration of the color printer, the target device is a color measuring device, and the processing capabilities further include a minimum distance of separation between color patches and a minimum size for the color patches.

75. A computer-readable medium according to Claim 58, wherein the target device is a device selected from the group consisting of a stamp reader, a bar code reader, an automatic scoring device, an automatic folding device, an automatic stitching device, an automatic binding device, an automatic stamping device, and an automatic cutting device.

76. A computer-readable medium which stores a negotiation controller, the negotiation

controller comprising computer-executable process steps to determine layout of color patches printed by a color printer onto a recording medium, in which the recording medium is processed by a color measuring device so as to perform color calibration of the color printer based on the color patches, the computer-executable process steps comprising:

a first determining step to determine printing capabilities of the color printer, the printing capabilities including at least one valid size for the recording medium and at least one printable area on the recording medium;

a second determining step to determine processing capabilities of the color measuring device, the processing capabilities including at least one valid size for the recording medium, at least one area on the recording medium that can be processed by the color measuring device, and a minimum distance of separation between color patches;

a third determining step to determine compatible capabilities between the printing capabilities of the color printer and the processing capabilities of the color measuring device; and

a fourth determining step to determine layout of the color patches based on the compatible capabilities between the printing capabilities of the color printer and the processing capabilities of the color measuring device.